



*The Power of Nutrition*

**LEARN HOW TO  
BEAT THE BLOAT ON A PLANE  
& EASE THE JETLAG**





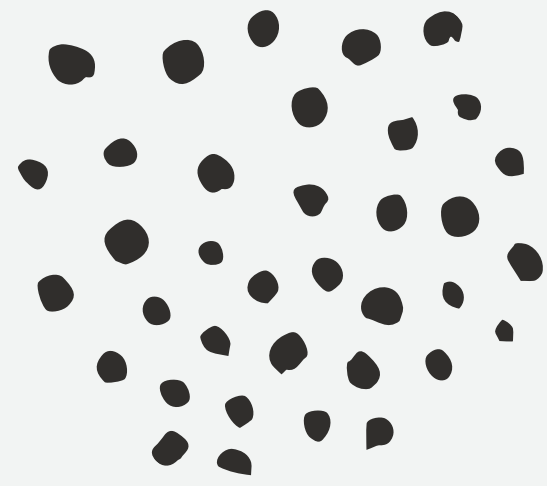
## TOPICS TO COVER

- What is jetlag ?
- Common symptoms of jetlag
- 4 steps to take before the flight
- What is FODMAP ?
- List of FODMAP to avoid
- Which food to take on board?
- 4 Steps to take after the flight
- Supplements that ease the jetlag

# *How do we define Jet lag?*



Jetlag is a physiological condition that results from a disruption of our internal 24 hour body clock. The internal system that regulates daily activities, such as sleep, waking, eating, and body temperature regulation due to neuronal and hormonal functions (cortisol, melatonin, serotonin)



# *What are the symptoms of jetlag?*

- **DISTURBED SLEEP & DAYTIME FATIGUE**

It depends on individual health conditions, age but also the number of time zones crossed and whether we travel eastward (losing hours) or westwards (gaining hours)

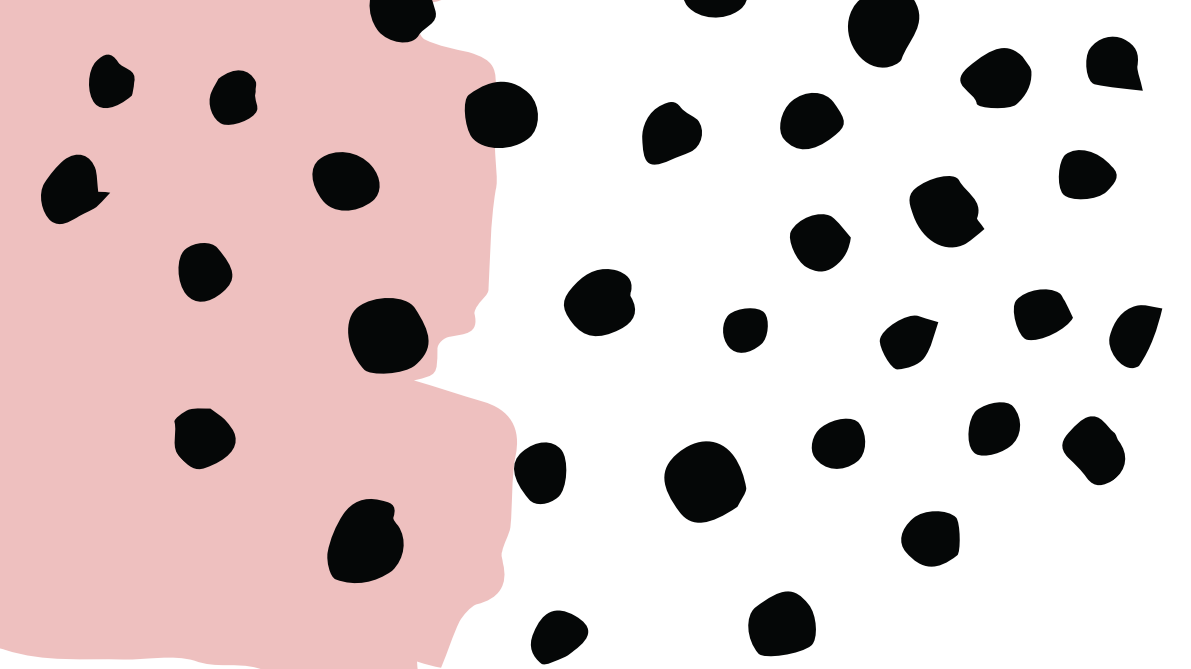
- **HEADACHE & LOSS OF CONCENTRATION**

The ability to make decisions is weakened if we are tired & dehydrated after a long flight

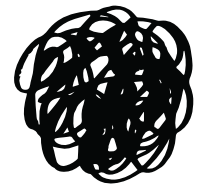
- **GASTROINTESTINAL DISTURBANCES**  
due to imbalanced digestion and dehydration



# 4 steps to take before the long haul flight



## CHANGE YOUR WATCH TO THE LOCAL TIME



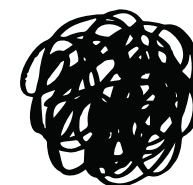
2 days before departure adjust already to a local time (depending on how many time zone you will cross and which location you go to). Sleep, eat, exercise on the time zone schedule.

## ADJUST YOUR MEALS BEFORE FLIGHT



Certain food (FODMAP) form more gas because of indigestible fiber and sugars. Moreover, due to basic law of physics the gas in our body expands. Fasting (12-16 hours fasting) is best

## TAKE YOUR OWN FOOD & SNACKS



Avoid salty, sugary & fatty snack as the digestion is compromised during the flight resulting in increased bloating. Salt is also causing water retention.

## MODERATE EXERCISE & MASSAGE



Pre-flight yoga and/or light jogging improves circulation and release of hormones such as dopamine, endorphins or serotonin. Massage help to prevent fluid retention.

# Step to follow during the flight

## AVOID DEHYDRATION

Treat the flight like a race. Avoid alcohol, coffee, tea which dehydrate the body. Stick to water with lemon or herbal tea such as mint, ginger, lavender or chamomile or even electrolytes. Moisture your skin too.

## AVOID LEG CRAMPS

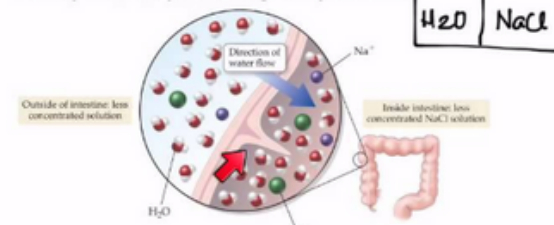
Choose comfortable clothing and sock. Walk as much as possible during the flight, stretching regularly. Supplement with magnesium days before and during the flight too.

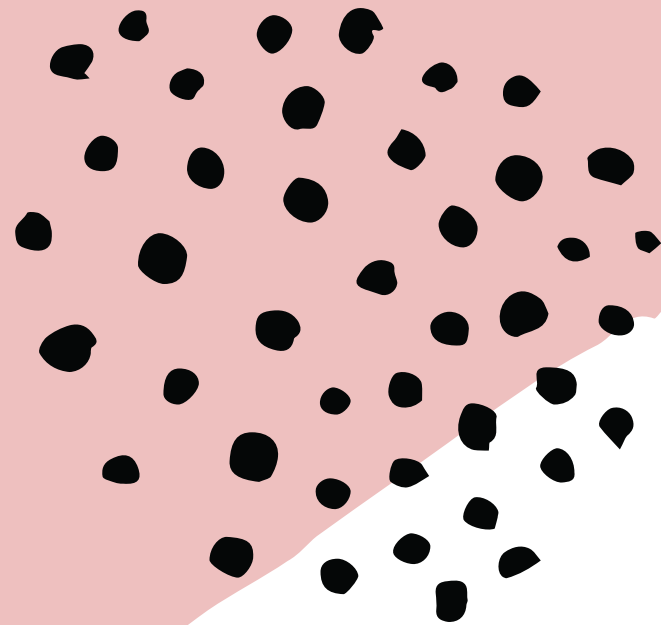
## AVOID WATER RETENTION

Salted snack (crisps, salted nuts) but also sugary snacks cause cell dehydration and at the same time swelling. due to osmosis balancing the sodium and glucose molecules in the blood with bringing more water from cells to the blood increasing blood pressure.

## AVOID BLOATING

Before flight and also during the flight avoid FODMAP ( highly fermentable carbs) that is causing gas formation and bloating. Gas is multiplied in the intestine by 30% due to high cabin pressure equal to 2500 m altitude.





# Bloating FODMAP

## WATCH OUT FOR HIDDEN CULPRITS

Garlic, onion even in small amounts

Fruit high in fructose (apples, mango, pears,)

Sugar free sweets containing polyols

(usually ending in -ol or isomalt and are often found in chewing gums and fizzy drinks)

Sweeteners and corresponding E number:

Inulin, Isomalt (E953 / 953)

Lactitol (E966 / 966) Maltitol (E965 / 965)

Mannitol (E241 / 421) Sorbitol (E420 / 420)

Xylitol (E967 / 967) Tahini paste in hummus

Vegetables (Asparagus, Brussels sprouts,  
cauliflower, chicory leaves, Jerusalem artichokes,  
leeks, mushrooms)



# Pack your own snack

## NUTS & SEEDS

Great source of mineral, healthy fat & protein. Make you feel full for longer. (avoid cashews and pistachios)

## GLUTEN FREE SNACKS

spelt wheat unsalted pretzels, rice crackers with some kind of hard non-stinky cheese

## FRESH GINGER

Has many beneficial properties. Improved digestion, nausea, inflammation, lowering blood glucose levels and muscle pain.

## UNRIPE BANANA

Contain less sugar and more dietary fiber (adding bulk and promoting satiety) Fiber is crucial for digestive health (having prebiotic effect) and blood glucose levels.

## DARK CHOCOLATE

70 % 90% quality chocolate is rich in fiber, iron, magnesium, copper, manganese and powerful antioxidants improving blood flow in arteries and brain

## CARROT STICKS & GRAPES

Crunchy & tasty healthy option full of antioxidants and minerals needed for proper hydration and strong immune system fighting viruses and bacteria.



# Supplements to Beat the Bloat & Jetlag

## MAGNESIUM



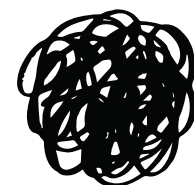
Is beneficial in relaxing muscles, inducing sleep, promotion of regular digestion, taming headaches and improves nervous system functioning.

## PROBIOTICS



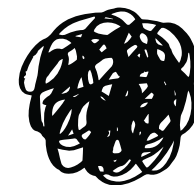
Healthy gut bacteria improve your digestion, they can help prevent and stop travelers' diarrhea and boost your immune system as they produce many useful byproducts.

## MELATONIN



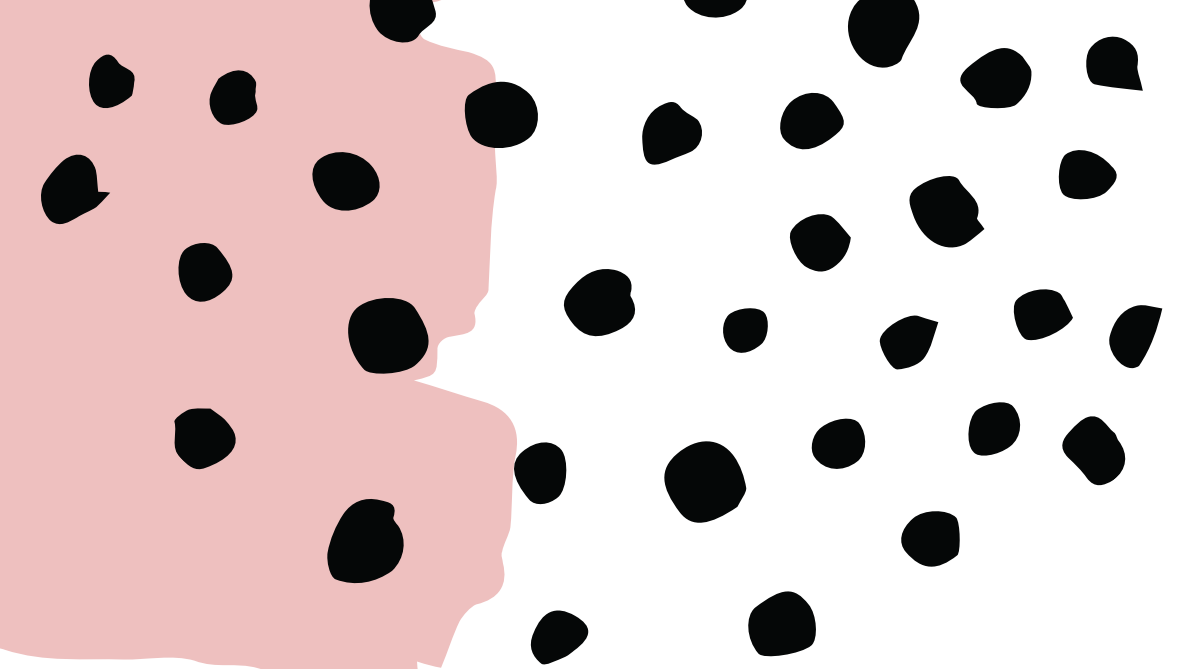
Sleep hormone secreted by pineal gland might be supplemented at bedtime at your local destination (using for 1-3 days). Studies show up to 50% reduction of symptoms. Consult with your doctor!

## PYCNOGENOL



Pine bark extract helps to reduce swelling (including brain edema) and blood clotting decreasing lengths of jetlag symptoms. Also it has anti-bacterial and anti-viral activity.

# Post flight tips & tricks



## EXERCISE & MASSAGE



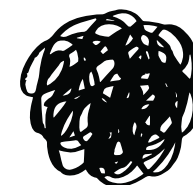
For the same reason as before the flight. Massage helps to drain the excess fluid out of the system and relax the muscles. Light exercise improves blood circulation and muscle stretch.



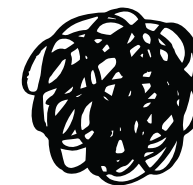
## LIGHT EXPOSURE/AVOIDANCE

Depending if you fly eastward or westward you need to either expose to sun or hide from light and administer melatonin (consult with doctor !)

## SHORT NAP



The key is to control your sleeping patterns. If you feel tired, have a "cat nap" short sleep between 20 min. to max. 2 hours.



## HYDRATION

During a 10 hours flight you can lose 1.6 to 2 litres of water due to dry air in the cabin (only 10% of humidity). Dehydration has a negative effect on cognitive function.

# References

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